

REMARKS

The Office Action dated June 18, 2007, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 35-58, 71, 84-101, 110, 119, and 121-131 are currently pending in the application (claim 120 having been withdrawn from examination), of which claims 35, 45, 92, 119, and 121-123 are independent claims. Claims 35-36, 39, 42, 45-46, 49, 52, 54-58, 71, 84-101, 110, and 119 have been amended, and claims 121-131 have been added, to more particularly point out and distinctly claim the invention. No new matter has been added. Claims 59-70, 72-83, 102-109, and 111-118 have been cancelled without prejudice or disclaimer. Claims 35-58, 71, 84-101, 110, 119, and 121-130 are respectfully submitted for consideration.

Claims 36-41, 46-51, 59-64, 72-77, 88-91, 106-107, and 114-117 were indicated as containing allowable subject matter, but were objected to as being dependent on rejected base claims. Applicant thanks the Examiner for this indication of allowable subject matter. Claims 59-64, 72-77, 106-107, and 114-117 have been cancelled without prejudice or disclaimer, and consequently the objection to those claims is moot and should be withdrawn. With respect to claims 36-41, 46-51, and 88-91 it is respectfully submitted that the claims from which these claims depend are also allowable, for the reasons discussed below, and consequently it is respectfully requested that the objection to claims 36-41, 46-51, and 88-91 be withdrawn.

Additionally, claims 42-43, 52-53, 65-66, 78-83, and 96-99 were indicated as containing subject matter that would be allowable, but were rejected on formal grounds as well as being objected to as dependent from rejected base claims. The formal rejections are discussed below. Applicant thanks the Examiner for this indication of allowable subject matter. Claims 65-66 and 78-83 have been cancelled without prejudice or disclaimer, and consequently the objection to those claims is moot and should be withdrawn. With respect to claims 42-43, 52-53, and 96-99 it is respectfully submitted that the claims from which these claims depend are also allowable, for the reasons discussed below, and consequently it is respectfully requested that the objection to claims 42-43, 52-53, and 96-99 be withdrawn.

At item 2, the specification was objected to because the mathematical presentations on pages 4-6, 12-14, 16-17, and 21-22 were hard to read. Various lines from the referenced pages have been reproduced for the Examiner's convenience. It is respectfully requested that the objection to the specification be withdrawn in view of the reproduction of the various mathematical expressions contained in the specification.

The drawings were objected to because there were no descriptive text labels on various elements of various figures. Applicant respectfully notes that the MPEP does not indicate that descriptive text labels are required for figures, 37 CFR 1.87(o) indicates that text in the drawings should be minimized, and 37 CFR 1.87(p)(1) says that for reference characters "numerals are preferred." Furthermore, for example, Figure 1 does not appear to include "element (30)" identified in the Office Action, at least some of the symbols

used in Figures 2 and 3 are standard drawings symbols, and it is unclear what “elements” of Figure 6 are to be labeled with descriptive text. Accordingly, it is respectfully requested that the objection to the drawings be withdrawn. If the objection cannot be withdrawn, clarification of the objection to the drawings with respect to each descriptive text label that should be added, is respectfully requested so that Applicant may comply with the Examiner’s request.

Claim 119 was objected to because “use” was misspelled as “ise.” Claim 119 has been amended to correct this typographic error. Accordingly, withdrawal of this objection is respectfully requested.

Claims 42-43, 53, 65-66, 78-83, and 92-100 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. Specifically, the term “said spreading sequence” in claim 42, line 1, had an alleged antecedent basis issue. The same issue also existed with respect to claims 52, 65, and 78. Claims 42 and 52 have been amended to address these antecedent basis issues, and claims 65 and 78 have been cancelled without prejudice or disclaimer. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim 65 was rejected because its claim dependency was clearly wrong due to a typographic error. Claim 65 has been cancelled without prejudice or disclaimer. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 92-100 were rejected because they are hybrid claims: *i.e.* they are claims to a device, but they depend from a claim to a method. Claim 92 has been amended to place

claim 92 in independent form, thereby eliminating this hybrid format. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 35, 44-45, 54-57, 67-71, 84-87, 92-95, 100-104, 108-113, and 118-119 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 6,553,018 of Ichihara ("Ichihara"). Applicant respectfully traverses this rejection as applied to claims 35, 44-45, 54-57, 100-101, 110, and 119, and respectfully submits that the rejection is moot with respect to claims 67-71, 102-104, 108-109, 111-113, and 118, as those claims have been cancelled without prejudice or disclaimer.

Claim 35, upon which claims 36-44, 84-91, and 124-125 depend, is directed to a method including providing digital data to be transmitted to a remote station as a plurality of parallel bitstreams. The method also includes phase modulating said bitstreams with respective orthogonal or substantially orthogonal spectrum spreading signals to produce a plurality of modulating signals. The method further includes phase modulating respective instances of a carrier with said modulating signals to produce a plurality to modulated carrier instances. The method additionally includes summing the modulated carrier instances and transmitting the result of said summation.

Claim 45, upon which claims 46-58, 71, and 126 depend, is directed to a transmitter including a source of digital data to be transmitted to a remote station as a plurality of parallel bitstreams. The transmitter also includes a first phase modulating unit configured to phase modulate said bitstreams with respective orthogonal or substantially orthogonal spectrum spreading signals to produce a plurality of modulating

signals. The transmitter further includes a second phase modulating unit configured to phase modulate respective instances of a carrier with said modulating signals to produce a plurality of modulated carrier instances. The transmitter additionally includes a summer configured to sum the modulated carrier instances.

Claim 92, upon which claims 93-101, 110, and 128 depend, is directed to a receiver for receiving a signal produced by a method that includes providing digital data to be transmitted to a remote station as a plurality of parallel bitstreams, phase modulating said bitstreams with respective orthogonal or substantially orthogonal spectrum spreading signals to produce a plurality of modulating signals, phase modulating respective instances of a carrier with said modulating signals to produce a plurality of modulated carrier instances, and summing the modulated carrier instances and transmitting the result of said summation. The receiver includes a radio frequency processing unit configured to produce a baseband signal, comprising components corresponding to the modulating signals, from a received radio frequency signal. The receiver also includes a processing unit configured to process the baseband signal by processes configured to extract the data from each of the modulating signals.

Claim 119, upon which claim 130 depends, is directed to a mobile phone network including a base station in communicative relation to a plurality of mobile phones, the base station including a receiver. The receiver includes a radio frequency processing unit configured to produce a baseband signals, comprising components corresponding to the modulating signals, from a received radio frequency signal. The receiver includes a

processing unit configured to process the baseband signal by processes configured to extract the data from each of the modulating signals. Each mobile phone includes a transmitter. The transmitter includes a source of digital data to be transmitted to a remote station as a plurality of parallel bitstreams. The transmitter also includes a first phase modulating unit configured to phase modulate said bitstreams with respective orthogonal or substantially orthogonal spectrum spreading signals to produce a plurality of modulating signals. The transmitter further includes a second phase modulating unit configured to phase modulate respective instances of a carrier with said modulating signals to produce a plurality of modulated carrier instances. The transmitter additionally includes a summer configured to sum the modulated carrier instances; wherein the mobile phones employ the same carrier frequency and spreading signals for communication with the base station, each mobile phone applying the spreading signals in a time offset manner relative to the use of the spreading signals by each of the other mobile phones.

Applicant respectfully submits that Ichihara fails to disclose or suggest all of the elements of any of the presently pending claims.

Ichihara generally relates to a method and apparatus for adjusting transmission power of a CDMA terminal. Ichihara, at column 6, lines 16-21, indicates that Ichihara aims to provide a transmission power control method and apparatus for conducting transmission power control during multi-code transmission, which can reduce circuit scale and electric power consumption more and is capable of conducting optimum power control.

In Figure 9 (described at column 5, lines 24-67), Ichihara provides a block diagram showing an arrangement of mobile terminal for controlling transmission power, in which there are two code channels to be used. The diagram indicates two signal sources (104A, 104B) with respective spreading circuits (115A, 115B), Digital to Analog converters (116A, 116B), modulators (117A, 117B) and variable gain circuits (118A, 118B) arranged in respective sequence. The outputs of the variable gain circuits (118A, 118B) are provided to an adder 120, and subsequently to a transmitter 114 and antenna 113. Both of the modulators (117A, 117B) are served by the same oscillation circuit 119.

Claim 35 recites, in part, “phase modulating said bitstreams with respective orthogonal or substantially orthogonal spectrum spreading signals to produce a plurality of modulating signals.” Ichihara fails to disclose or suggest at least this feature of claim 35.

The Office Action took the position that this feature of claim 35 is disclosed by Ichihara’s spreading circuits 115A and 115B, as described at column 5, lines 24-67. This position is incorrect.

The cited passage does mention spreading circuits 115A and 115B, and that these spreading circuits use spread codes of the code channels A and B and that those spread codes are “different from each other.” There is, however, not the least disclosure or suggest that the spreading signals are “orthogonal or substantially orthogonal” with respect to one another. Accordingly, the cited passage does not correspond to what is

recited in claim 35, and it is respectfully requested that the rejection of claim 35 be withdrawn.

Independent claims 45, 92, and 119 each have their own scope, but each recites at least some feature similar to that discussed above with respect to claim 35. Accordingly, we similarly recommend requesting that that rejection of claims 45, 92, and 119 be withdrawn.

Claims 44, 54-57, 100-101, and 110 depend from and further limit claims 35, 45, and 92. Accordingly, each of claims 44, 54-57, 100-101, and 110 also recites subject matter that is neither disclosed nor suggested in Ichihara. It is, thus, respectfully requested that the rejection of claims 44, 54-57, 100-101, and 110 be withdrawn.

Additionally, with respect to claim 110, the Office Action took the position that “although not shown, the reverse order of the transmitter process ... is anticipated to be performed in the base station.” Applicant respectfully disagrees with the Office Action’s position.

As explained at column 5, lines 51-58, of Ichihara the base station 102 transmits Total Power Control (TPC) messages on the two code channels A and B to a mobile terminal 121. There is, however, no indication that the mobile terminal contains a similar transmitter, such that the base station 102 would be equipped to receive signals such as it itself produces. Accordingly, the rationale underlying the rejection of claim 110 is incorrect, and it is respectfully requested that the rejection of claim 110 be withdrawn for at least this reason.

Furthermore, with respect to claim 101, Applicant notes that claim 101 recites a “mobile phone” comprising various elements. The rejection fails to consider this feature of the claim, and alleges instead various features of a base station. Accordingly, the rationale underlying the rejection of claim 101 is incorrect, and it is respectfully requested that the rejection of claim 101 be withdrawn for at least this reason.

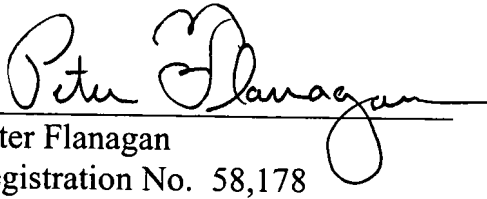
Moreover, newly added claims 124-131 depend from, and further limit, each of claims 35, 45, 92, 119, and 121-123. Thus, each of claims 124-131 is patentable for at least the reasons set forth above. Furthermore, each of claims 124-131 recites “wherein the spreading signals comprise a common finite spreading sequence.” Such a feature is not disclosed or suggested in Ichihara. Thus, claims 124-131 are also patentable over Ichihara for this further reason.

For the reasons set forth in detail above, it is respectfully submitted that each of claims 35-58, 71, 84-101, 110, 119, and 121-131 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 35-58, 71, 84-101, 110, 119, and 121-131 be allowed and that this application be passed to issuance.

If – for any reason – the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicant’s undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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Enclosures: Additional Claim Fee Transmittal